Mostuea muricata (Gelsemiaceae), a New Species from Brazil

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ABSTRACT. *Mostuea muricata*, an American species from a predominantly African genus, is described, illustrated, and compared with the African *M. brunonis* and the American *M. surinamensis*, from which it is distinguished mainly by its muricate fruits and rugose, glabrous, and viscose seeds. This species was collected in the Brazilian states of Mato Grosso and São Paulo, and its finding represents a southward extension of the range of *Mostuea* in South America, before now known only in Suriname and northern Brazil.

RESUMEN. Se describe y ilustra *Mostuea muricata*, una especie americana de un género principalmente africano. Se la compara con la especie africana *M. brunonis* y con la especie americana *M. surinamensis*, de las cuales se diferencia especialmente por sus frutos muricados y sus semillas rugosas, glabras y viscosas. Esta especie fue colectada en los estados brasileños de Mato Grosso y São Paulo, y su hallazgo representa una extensión austral del área geográfica del género en Sudamérica, que hasta ahora se conocía sólo en Surinam y el norte de Brasil.

Key words: Brazil, Gelsemiaceae, *Mostuea*.

Mostuea Didrichsen is a small genus with eight recognized species (Leeuwenberg, 1961), seven in Africa and one disjunct in northern South America. It was formerly included in the Loganiaceae, together with *Gelsemium*, in the tribe Gelsemieae (Leeuwenberg, 1961); nevertheless, recent phylogenetic studies (Struwe et al., 1994; APG, 1998; Backlund et al., 2000) strongly support the recognition of tribe Gelsemieae as a separate family, Gelsemiaceae, mainly characterized by heterostylous flowers with twice-divided stigmas, latrorse anthers, imbricated corolla aestivation, and flattened seeds (Struwe et al., 1994). In this paper we describe a second South American species, collected in the Brazilian states of São Paulo and Mato Grosso.

Mostuea muricata Sobral & Lc. Rossi, sp. nov. TYPE: Brazil. São Paulo: São Carlos, Santa Eudóxia, Nov. 1993, *M. Sobral & J. R. Stehmann 8049* (holotype, SP; isotypes, ICN, MBM, MO). Figures 1, 2.

Species haec *M. brunoni* et *M. surinamensi* proxima, a quibus fructibus muricatis, seminibus viscosis recedit.

Undershrub to shrub 0.5–1.5(2) m high. Branches dichotomous, sparsely to densely whitish-tomentose with hairs 0.1–0.2 mm long, eventually in unequally developed pairs, always with 2 pairs of leaves and bearing flowers, with 2 callose, elliptic, and somewhat paler protuberances 1.5–2.0 mm long by the insertion of the petioles. Leaves discolored in dried specimens, ovate, obovate, or elliptic-obovate, the proximal ones strongly unequal in size, (3)10–40 × (2)5–25 mm, smaller than the distal ones, these equal or subequal in size, asymmetrical, 30–75 × 17–40 mm, with pale hairs 0.1–0.2 mm scattered adaxially and more dense and velutinous abaxially, especially on nerves; apex acute; base cuneate or rounded, frequently cordate and then with the lobes concealing adaxial petioles; central and secondary nerves sulcate adaxially and salient abaxially, the secondary nerves 6 to 8(10) pairs; petioles 1.0–1.5(2) × 1.0–1.3 mm, scarcely visible from the adaxial side; stipules interpetiolar triangular, 1.0–1.2 × 1.2–1.5 mm, 1- to 5-laciniate, the laciniae 0.8–1.0 × 0.2 mm; colleters linear, up to 10 × 1 mm, inside the stipules. Inflorescences terminal dichasia or dichotomous cymes, smaller than the leaves, 3- to 20-florous, rarely uniflorous; peduncles 10–20 mm long; bracteoles linear, 1–3 × 0.1 mm. Flowers heterostylous, pentamerous, rarely tetramerous; pedicels absent or to 3 × 0.2 mm; calyx 1.7–2.0 mm long, sparsely to densely covered with hairs, with equal or slightly unequal laciniae 1–2 × 0.3–0.8 mm; corolla infundibuliform, white, glabrous or scarcely pilose externally at the apex, 5.5–8.0 × 2.0–2.5 mm in the widest

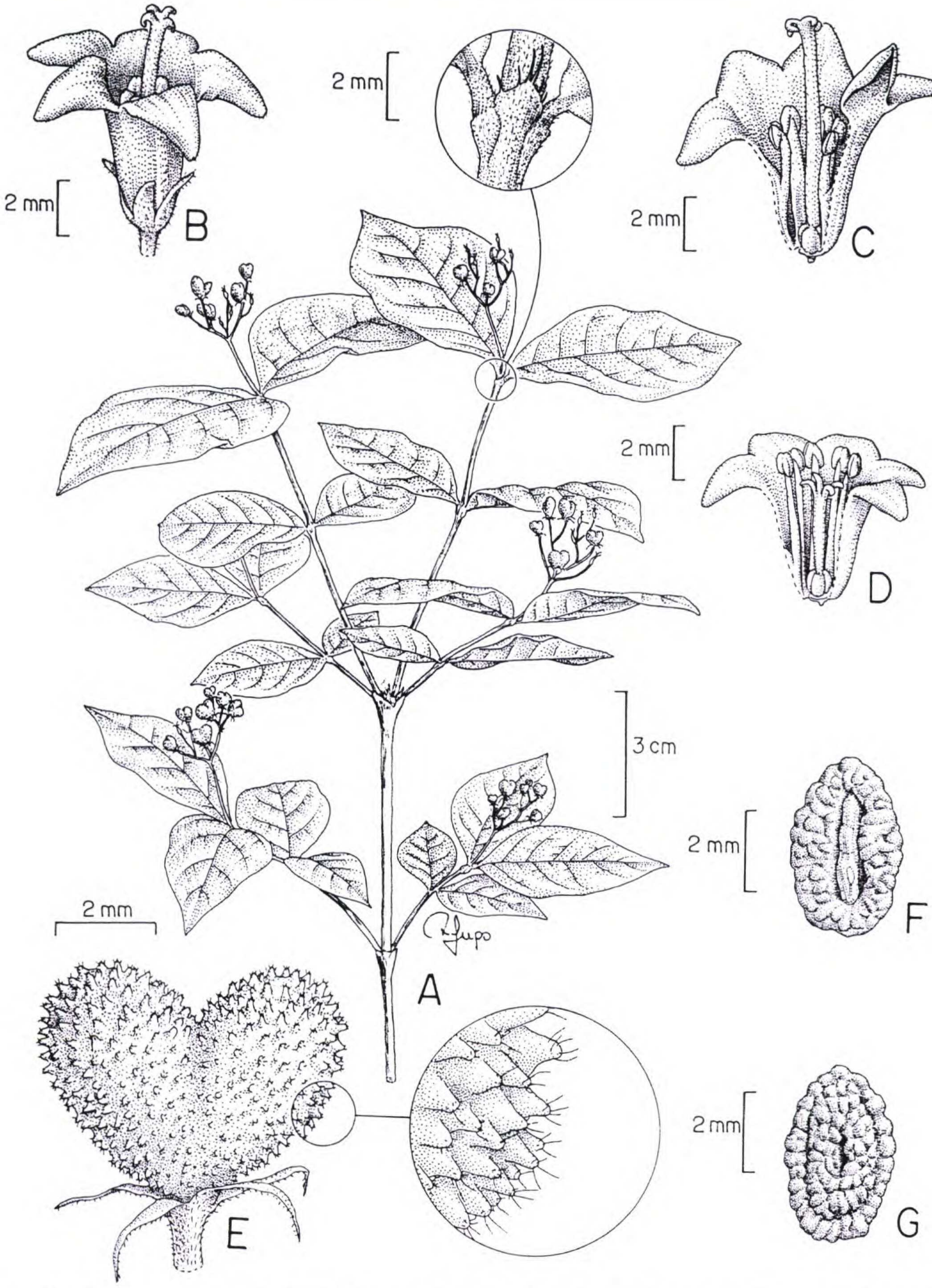

Figure 1. *Mostuea muricata* Sobral & Lc. Rossi. —A. Fruiting branch. —B. Longistylous flower. —C. Longistylous flower in longitudinal section, drawn from fresh material showing recurved corolla lobes. —D. Brevistylous flower in longitudinal section. —E. Fruit. —F. Seed, adaxial view. —G. Seed, abaxial view. A, E–G: *Jaccoud 20*; B, C: *Rossi et al. 1700*; D: *Rossi et al. 1697*.

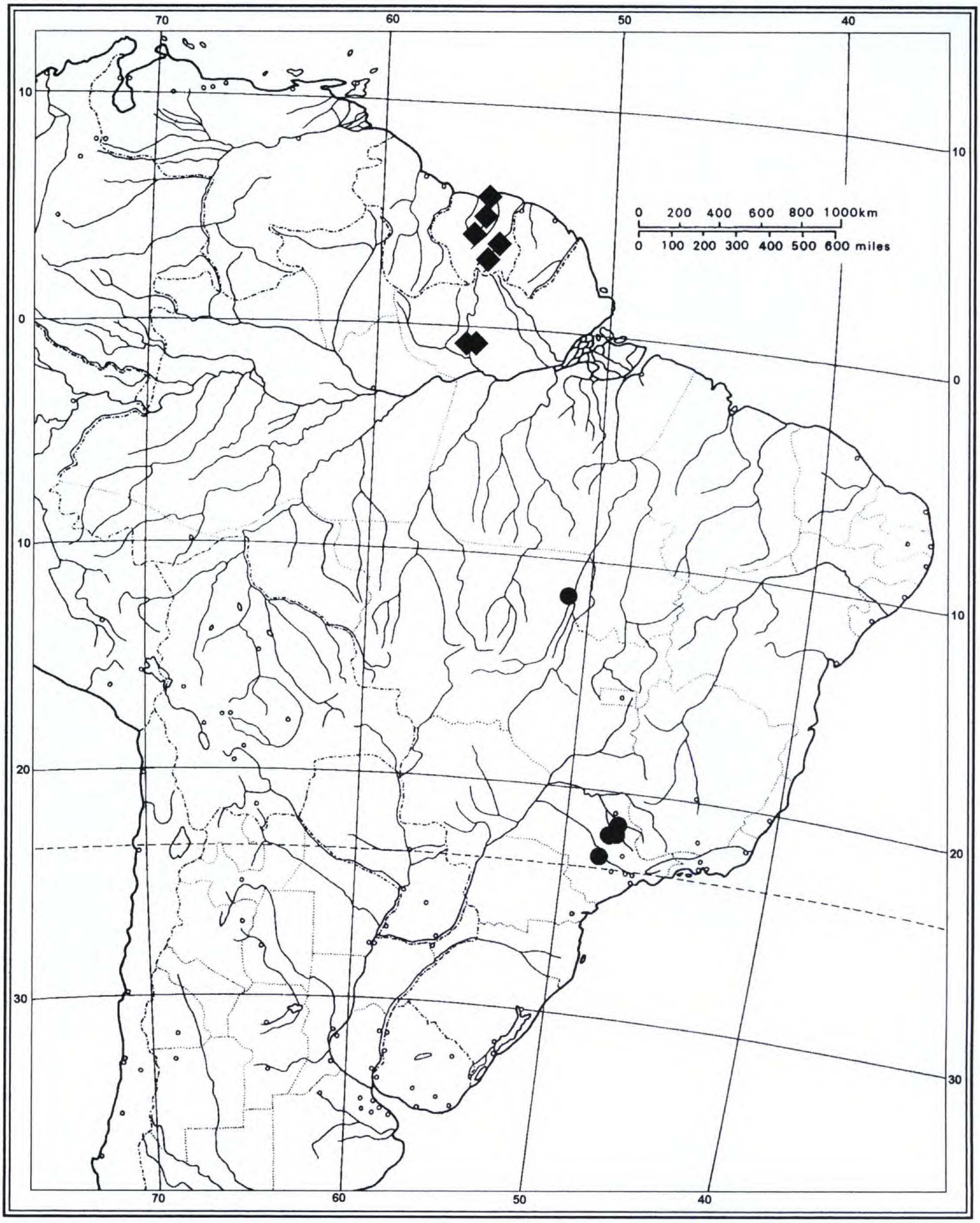

Figure 2. Distribution of collections of *Mostuea muricata* (circles) and *M. surinamensis* (polygons). Collections in Suriname are marked after Leeuwenberg (1961), and Brazilian collections (*Cid et al. 2055, 2300* (MO), *Ducke s.n.* (RB), and *Sampaio 5094*, (R)) were examined.

portion, the lobes 1.5–2.5 × 1.5–2.0 mm, occasionally slightly revolute in nature; stamens equal in size, 5–7 mm long and with exserted anthers in brevistylous flowers, included and somewhat unequal ca. 4 mm long in the longistylous flowers; styles twice-branched, included and ca. 4 mm long in brevistylous flowers and ca. 6 mm long and exserted in longistylous ones; ovary 1.8–2.0 × 1.5–1.8 mm, externally 4-lobed, sometimes slightly verrucose, glabrous or with scattered white hairs about

0.1 mm long at the apex, bilocular with 2 ovules with central-basal placentation by locule. Fruit an obcordate capsule, 5–6 × 7–10 mm, strongly muricate, with excrescences 0.1–0.3(0.5) mm long crowned with a tuft of 4 to 5 pale hairs about 0.1 mm long. Seeds 2 to 4, red, shining, and viscose when fresh, plano-convex, ellipsoid, glabrous, rugose, with a visible raphe and hylum in the flattened face, 4.5–5.0 × 3.5 mm.

Vernacular name. Agarra-agarra (from *Jaccoud 20*). "Agarra" is the Portuguese word for "grasp," and it is probable that the name has derived from the ability of the seeds to attach to clothes or skin.

Distribution, habitat, and phenology. Disjunct African and American families and genera are relatively common (Gentry (1993) listed 118 genera in 51 families). *Mostuea* is an example of such a phenomenon, with seven of its eight recognized species (Leeuwenberg, 1961) occurring in Africa and one in South America. The discovery of a species of *Mostuea* in central and southeastern Brazil expands southward the geographical distribution of the genus in South America. As far as known, the distribution of the two American species does not overlap (*M. surinamensis* Bentham is recorded only for Suriname and northern Brazil), and in overall morphology they look less similar to each other than *M. muricata* to the African *M. brunonis* Didrichsen (see Affinities below). Thus, *Mostuea* as presently defined (Leeuwenberg, 1961) comprises nine species, seven in Africa and two in South America. *Mostuea muricata* grows in shady and sandy sites in the interior of mesophyllous forests ("cerradões"), where it eventually occurs in great densities in the understory. Flowers were collected from September to January, and fruits from October to February.

Affinities. *Mostuea muricata* appears related to African *M. brunonis* and American *M. surinamensis* (for descriptions see Leeuwenberg, 1961) but is markedly set apart from both by fruit and seed morphology. The fruits in *M. brunonis* are smooth, glabrous or appressed-pubescent, and the seeds minutely reticulate, dull and densely appressed-pilose; fruits in *M. surinamensis* are smooth, glabrous, deeply bilobed (2 to 4 times as wide as long vs. lobes at most as wide as long in all other species), and seeds are glabrous and shiny, apparently not viscose. Vegetatively, *M. muricata* may be hard to distinguish from *M. brunonis*; this highly variable and widespread species (from Ghana to Madagascar; Leeuwenberg, 1961) has a wide range of leaf variation in size (6–280 × 3–125 mm) and shape (orbicular to oblong-ovate or lanceolate); from *M. surinamensis* it can be separated by the elliptic to oblong-elliptic leaves in this species. We have also observed that in *M. muricata* all branches have a limited size, bear four leaves, and end in an inflorescence—that is, apparently there are no vegetative branches, while they may be found in the other two species; nevertheless, it would be premature to take it as a diagnostic feature.

Paratypes. BRAZIL. **Mato Grosso:** São Félix do Araguaia, beira do rio Araguaia, 11°38′11.7″S, 50°40′23.7″W, 17 Mar. 1997, *Souza et al. 14231* (ESA, SP). **São Paulo:** Anhembi, mata da fazenda Barreiro Rico, 5 Oct. 1956, *Kuhlmann 3971* (RB, SP); Descalvado, Fazenda Graciosa, 3 Feb. 1966, *Bordo 58* (SP); estrada em direção a Santa Eudóxia, 8 Nov. 1995, *Rossi et al. 1696, 1697* (SP), *Rossi et al. 1700* (SP); Fazenda Jaguarão, Nov. 1993, *Sobral & Stehmann 8045* (ICN, MBM, SP), *8046* (ICN, SP), *8047* (ICN, MBM, SP), *8048* (ICN, SP), 21 Jan. 1997, *Stehmann & Sobral 2234* (BHCB, ICN); São Carlos, Santa Eudóxia, próximo à Fazenda Figueira Branca, 30 Sep. 1980, *Semir et al. 11540* (UEC), *11541* (UEC); São Simão, Bocaina, próximo ao córrego da Prata, 8 July 1961, *Jaccoud 20* (RB, SP), 30 Nov. 1960, *Kuhlmann 5004* (SP); Fazenda Bocaina, 29 Nov. 1961, *Mattos 8674* (RB, SP).

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